

E-002/M-88-253 APPROVING CONSERVATION IMPROVEMENT PROGRAM AND
REQUIRING ADDITIONAL FILINGS

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Barbara Beerhalter	Chair
Cynthia A. Kitlinski	Commissioner
Norma McKanna	Commissioner
Robert J. O'Keefe	Commissioner
Darrel L. Peterson	Commissioner

In the Matter of an Energy Conservation
Improvement Program for Northern States
Power Company Electric Utility

ISSUE DATE: October 14, 1988

DOCKET NO. E-002/M-88-253

ORDER APPROVING CONSERVATION
IMPROVEMENT PROGRAM AND
REQUIRING ADDITIONAL FILINGS

PROCEDURAL HISTORY

On April 29, 1988 Northern States Power Company Electric Utility (NSP or the Company) made its 1988 Conservation Improvement Program (CIP) filing under Minn. Stat. 216B.241 (1986) and Minn. Rules, part 7840.0200 et seq. On May 26, 1988 the Commission issued its Order Accepting NSP's Electric Utility 1988 Annual CIP Filing and Requiring Additional Information. On June 6, 1988 the Company made a supplementary filing meeting the requirements of that Order.

The Department of Public Service (the Department or the DPS) examined the filing and submitted detailed comments on June 1, June 21, and July 14, 1988. The Department recommended the approval of all proposed projects except the Time of Day Rates Project and suggested that the Commission require additional explanatory filings. The City of Richfield also filed comments, asking the Commission to require NSP to continue funding the electrical usage component of its Home Energy Check-up audit. That issue was subsequently resolved in discussions between the City and the Company.

The matter came before the Commission on September 23, 1988. Having reviewed the entire record herein and having considered the comments of all parties, the Commission makes the following findings and conclusions.

FINDINGS AND CONCLUSIONS

SUMMARY OF COMPANY'S PROPOSED PROGRAM

PROPOSAL TO OPERATE CIP PROJECTS ON A CALENDAR YEAR

NSP proposed to operate future CIP programs on a calendar year basis, instead of using the CIP year, which runs from October 1 to September 30. The Company therefore submitted a traditional CIP budget, a 1989 calendar year budget, and a budget for the fourth quarter of 1988, to be used if the switch to the calendar year were approved.

Since the Commission will approve the request to adopt a calendar year funding cycle, as explained below, only the 1989 calendar year and fourth quarter budgets are discussed herein.

The Company's proposed program consists of seventeen projects, which are described below.

APPLIANCE REBATE PROJECT

This project is designed to encourage consumers to choose energy efficient appliances by offering cash rebates on purchases of appliances with efficiency ratings in the top 15%. The Company anticipates making 30,750 rebates in the upcoming calendar year and proposes a budget of \$2,270,000 for the calendar year and \$454,000 for the fourth quarter of 1988. Demand savings of 4,013 kW are anticipated.

CHILLER EFFICIENCY IMPROVEMENT PROJECT

This project is designed to encourage commercial and industrial customers to choose high efficiency chillers for use in their air conditioning systems. The Company proposes to provide cash rebates of \$10 per ton of chilling capacity to customers purchasing new high efficiency chillers.

The goal is to provide rebates on an additional 17,000 tons of chilling capacity at a budget of \$249,000 for the 1989 calendar year and \$61,000 for the fourth quarter of 1988. The Company expects the project to reduce demand by approximately 880 kW annually.

CITYWIDE ADVISORY COMMITTEE ON HOME IMPROVEMENT EDUCATION (CACHIE) PROJECT

This project is part of an educational public service program NSP has offered for several years. It has not previously been part of the Company's CIP program.

The CACHIE program offers home repair and maintenance seminars throughout the City of Minneapolis. The seminars are designed for single family owners, and attendance is especially high among new homeowners. The Company charges attendees a \$3.50 fee, with a 50% discount for low income customers. Approximately 5% of past attendees have been low income persons.

In 1989 twenty of these seminars will focus on conservation measures. It is these seminars the Company seeks to include in its CIP program, with a projected budget of \$3,000 for the calendar year and \$750 for the final quarter of 1988.

COMMERCIAL AND INDUSTRIAL AUDIT PROJECT

This project will offer three kinds of energy audits to the Company's commercial and industrial customers. The Energy Checkup is the most detailed and customer-specific. It uses computer-assisted analysis to develop recommendations for individual customers. The Quick-Check is an abbreviated version of the Energy Checkup, and the Do-It-Yourself Audit is conducted by the customer with the aid of a Company-provided booklet.

The Company anticipates performing 216 Energy Checkups, 677 Quick-Checks, and 677 Do-It-Yourself Audits during the calendar year and has budgeted \$267,000.

COMMERCIAL AND INDUSTRIAL END-USE STUDY PROJECT

This project will consist of a survey of a random sample of the Company's commercial and industrial customers to determine end-use characteristics of customers with different types of fuel mixes, business activities, and physical facilities. The purpose of the project is to provide data to assist in planning and operating future CIP programs and conservation activities.

The Company states that it plans to conduct such a survey every three years to maintain current information on conservation potential in these customer classes. The proposed budget is \$25,000 for calendar year 1989 and \$64,000 for the last quarter of 1988. Anticipated energy savings are 65 million kWh, with a demand reduction of 8,750 kW.

COMMUNITY ENERGY COUNCIL RESIDENTIAL WEATHERIZATION PROJECT

This project will operate in conjunction with local Community Energy Councils within the Company's service area and will provide workshops, home energy audits, and weatherization materials to participating customers. Community Energy Councils are obligated under the terms of

their contracts with NSP to make special efforts to meet the needs of renters, low income persons, senior citizens, and handicapped individuals. The Company estimates that 15% to 20% of project participants will be renters or low income persons.

The Company expects 3,085 participants in 1989 and has budgeted \$270,000 for calendar year 1989 and \$93,000 for the fourth quarter of 1988.

COOL STORAGE AIR CONDITIONING PROJECT

This is a cash rebate project designed to promote the installation of efficient cool storage space cooling systems in place of conventional unitary or chiller-based air conditioning systems in commercial construction. The Company proposes to work with building supply vendors, architectural and engineering firms, and other trade allies to educate builders and developers regarding cool storage technology.

Rebate levels for small commercial buildings will be higher than for large ones for two reasons:

- 1.) Small buildings have greater potential for shifting load from peak periods, since the storage feature of cool storage systems will often enable them to shift all space cooling energy usage to off-peak periods;
- 2.) Small buildings do not enjoy the same economies of scale as larger ones, necessitating higher rebate levels to provide equal economic incentive.

The Company has budgeted \$696,000 for calendar year 1989, \$135,000 for the final quarter of 1988, and expects to shift 2,000 KW of 1989 summer peak demand to off-peak periods as a result of the project.

DEMAND-SIDE MANAGEMENT POTENTIAL STUDY PROJECT

This is a major research project designed to provide the Company with extensive data on the conservation potential of demand-side management practices. It is not viewed as a one-year, self-contained project, but as the foundation for long term efforts in this area. Initial research will focus on end use load data in the commercial and industrial classes, because of their high usage levels and because a significant amount of data is already available as a result of the Company's commercial and industrial audit projects.

The Company proposes a budget of \$683,000 for the calendar year and \$265,000 for the final quarter of 1988. The first figure includes the cost of 840 commercial and industrial audits which the Company proposes to deliver at no charge to facilitate this research effort.

GOOD CENTS HOME PROJECT

This project is designed to promote energy efficiency in new, electrically heated residential construction. For a \$100 fee the Company will work with builders to ensure that new single family and multifamily dwellings are 25% more energy efficient than if they had been built only to conform to the Minnesota Energy Code.

The Company proposes a 1989 calendar year budget of \$180,000 and a budget of \$24,200 for the final quarter of 1988. The project's goal is to reduce the Company's winter demand by 265 KW.

LIGHTING EFFICIENCY IMPROVEMENT PROJECT

This is a cash rebate project designed to encourage commercial, industrial, and farm customers to install and use more efficient lighting equipment. Rebates are offered on a wide range of equipment, from individual high efficiency fluorescent lamps to entire lighting systems.

The Company proposes a 1989 budget of \$1,502,250 and a fourth quarter budget of \$375,000. The demand reduction resulting from the project is expected to be 11.7MW.

MINNEAPOLIS ELECTRIC CONSERVATION PILOT PROJECT FOR LOW INCOME HOUSEHOLDS

This project will be conducted in conjunction with the Energy Office of the City of Minneapolis and is designed to provide comprehensive electric conservation services to Energy Assistance recipients in that city. The project will provide workshops on electric usage, home electric audits, and individual budget counseling. To the extent possible, the City will coordinate the services of this project with the services of various natural gas conservation programs.

The Company expects 800 households to participate in the workshop portion of the project and 700 households to receive on-site electric audits. All participants will be low income persons, and approximately 45% are expected to be renters. The Company estimates that participants will reduce their consumption of electricity by 10%.

The proposed budget for the calendar year is \$90,700 and \$18,800 for the fourth quarter of 1988.

MINNEAPOLIS ENERGY CONSERVATION PILOT PROJECT FOR SMALL BUSINESSES, NON-PROFITS, AND TAX-EXEMPT ORGANIZATIONS

This project will be conducted in conjunction with the City of Minneapolis and will be designed to promote conservation among small businesses, non-profit organizations, and tax-exempt organizations. The City will conduct a needs assessment before putting the project in final form, but the project will basically include education, technical assistance, and Quick-Check audits.

The Company's goal is to serve 200 customers through this project and to achieve energy savings of approximately 8% per participant. Funding is requested at \$37,400 for the calendar year and

\$12,850 for the fourth quarter of 1988.

MOTOR EFFICIENCY IMPROVEMENT PROJECT

This is a cash rebate project designed to encourage commercial, industrial, and farm customers to choose high-efficiency motors when making motor purchases. It also provides cash incentives to dealers to promote high efficiency motors.

This project has had low participation rates in the past year, but the Company hopes that the addition of dealer incentives and vigorous marketing will increase participation. The goal is to make rebates on 162 new motors, resulting in a demand reduction of 1,000 kW. Funding is requested at \$121,000 for the calendar year and \$28,000 for the final quarter of 1988.

RESIDENTIAL AUDIT SERVICES PROJECT

This project provides home energy audits to residential customers. Three audits are offered: the Residential Conservation Service (RCS) Audit, a comprehensive on-site audit for which a \$10 fee is charged; the Walk-Through Audit, a free, abbreviated version of the RCS audit; and the Do-It-Yourself audit, in which the customer completes a questionnaire and receives a computer analysis of the conservation potential of his or her dwelling.

The Company anticipates providing 4,000 RCS audits, 1,000 Walk-Through Audits, and 1,000 Do-It-Yourself Audits, and presents a proposed budget of \$400,000 for the calendar year and \$53,000 for the final quarter of 1988.

ROOFTOP AIR CONDITIONER REBATE PROJECT

This project is designed to encourage commercial and industrial customers who are purchasing rooftop air conditioners to choose high efficiency equipment. The project provides cash rebates to building owners and contractors who install the equipment. The inclusion of contractors is proposed to help market the project, which did not achieve desired participation levels last year.

The Company predicts a reduction in summer peak demand of 700kW and proposes a 1989 calendar year budget of \$325,000 and a fourth quarter budget of \$64,000.

VOLUNTARY TIME-OF-DAY RATE PROJECT

This project is designed to encourage high-usage commercial and industrial customers to shift load from peak to off-peak time periods. The Company proposes to identify customers with significant load-shifting potential and contact them with an analysis of their potential savings under time-of-day rates.

The Company anticipates converting 165 customers to time-of-day rates, resulting in shifting 175 kW of demand from peak to off-peak hours. The proposed budget is \$102,000 for calendar year 1989 and \$25,500 for the fourth quarter of 1988.

TECHNOLOGY RESEARCH PROJECT

The Company proposes to conduct research on the technological and economic feasibility of future CIP projects on water heater heat pumps, sunscreens, and time-clock controlled water heaters. The Company has combined its calendar year and fourth quarter budgets for this project and proposes a combined budget of \$138,000.

COMMISSION ACTION ON PROPOSED PROGRAM

The Commission finds that the Company's program, taken as a whole, fulfills the requirements of Minn. Stat. 216B.241 (1986). The program evinces a serious effort to address the conservation needs of the Company's customers in a comprehensive manner. It fulfills the statutory requirement that the Company make a significant investment in and expenditure for conservation improvements.

The program is geographically balanced, providing services in metropolitan, suburban, and rural portions of the Company's service area. It covers both residential and commercial customers, meeting a longstanding Commission concern that companies not limit their conservation efforts to

any particular customer class. The program also provides a wide range of services to different kinds of customers within each class.

The program offers services which will be of immediate practical benefit to many people. It also includes a strong research and testing component. This not only provides short term benefits by identifying worthwhile projects for next year's program; it also provides a stable base for long term conservation efforts. The Commission believes that the broad scope of the Company's program is in keeping with the comprehensive conservation effort envisioned by the CIP statute.

Consideration for Needs of Renters and Low Income People

The program fulfills the statutory requirement of showing special consideration for the needs of renters and low income people. One project, the Minneapolis Electric Conservation Pilot Project for Low Income Households, limits participation to low income people. Furthermore, the Company and the agencies administering its residential projects will make special efforts to attract and serve low income households and renters in the other residential projects.

Cost Effectiveness

The statute requires that, to the extent possible, the conservation improvements funded by the Company be cost effective. The statute speaks of cost effectiveness in terms of the cost of conservation improvements not exceeding the cost of producing or purchasing the amount of energy saved. Nevertheless, the statute requires the Commission to ensure that utilities with annual revenues exceeding \$50,000,000 make significant investments in and expenditures for conservation improvements, even if the level of cost effectiveness discussed above cannot be attained.

Cost effectiveness analysis for demand-side programs is an evolving area of utility regulation. The Commission, the Department of Public Service, the CIP utilities, and other parties have been engaged in studies and discussions on the issue since the CIP program began. It would be premature at this point to attempt a definitive analysis of the cost effectiveness of this year's program.

The Department has raised questions about the cost effectiveness of the Voluntary Time-of-Day Rate Project which must be addressed before that project is approved. On the whole, however, the Commission is convinced that the program is cost effective under existing standards. No party challenged the cost effectiveness of the program taken as a whole. Furthermore, the Commission agrees with parties who have pointed out in the past that CIP projects produce many benefits which are not factored into traditional cost effectiveness analyses. These include more comfortable living and working environments, ecological benefits, infusion into the local economy of dollars which would otherwise have been spent on energy, potential for long-term price stability resulting from limited need for new supplies, and data on usage patterns and conservation potential derived from conservation projects.

Considering both traditional cost effectiveness measures and the considerations set forth above, the Commission concludes that the Company's program complies with appropriate and prevailing cost effectiveness standards.

CALENDAR YEAR BUDGET CYCLE APPROVED

The Company proposed that it be allowed to plan, implement, and fund its CIP program on a calendar year basis rather than a CIP year basis. The traditional CIP year runs from October 1 through September 30. The Company states that placing its CIP program on the same budget year as the rest of its operations would simplify and improve its management of the program.

The Commission agrees that efficiency of operation is an important concern of the CIP process and sees no significant drawbacks to granting the Company's request. Since very few of its customers are space heating customers, it is not necessary for the beginning of its CIP year to coincide with the beginning of the heating season, the rationale for the October to September CIP year.

The Company also proposes that in the future it make its annual CIP filing on August 1, instead of May 1, as required under Minn. Rules, part 7840.0500. The Commission will vary the May 1 filing requirement pursuant to the provisions of Minn. Rules, part 7830.4400, finding that enforcing the May 1 deadline imposes an excessive burden on the Company, that altering the filing date will not adversely affect the public interest, and that allowing an August 1 filing will not conflict with any requirement imposed by law.

FURTHER EXAMINATION OF VOLUNTARY TIME-OF-DAY RATES

The Department recommended disapproving the Voluntary Time-of-Day Rates Project on grounds that it is not cost effective. The Department was especially concerned about the project's potential for creating windfall savings for customers whose heaviest usage has always occurred during off-peak periods. These savings do not promote conservation goals and drastically reduce the cost effectiveness of the project.

The Commission will direct the Company to consult with the Department regarding possible solutions to the cost effectiveness problem and to make a supplementary filing detailing the results of these discussions within 30 days. The Commission will then address whether the Voluntary Time-of-Day Rates Project should be approved.

PROJECTS WITH PROBLEMS TO BE MONITORED

The Company's filing acknowledges that three of last year's projects proposed for continuation have fallen substantially short of projected participation levels. Those projects are the Cool Storage Air Conditioning Project, the Rooftop Air Conditioner Rebate Project, and the Motor Efficiency Improvement Project. The Company attributes low participation levels to marketing difficulties, which it proposes to cure by extending rebates to dealers and suppliers and by providing architects and engineers with information on cool air storage space cooling technology.

The Commission agrees with the Company that these are worthwhile projects with significant conservation potential and that they should be tried again. If they prove to be unworkable, however, it is important that that fact be acknowledged before the entire 1989 budget has been spent. For this reason, the Commission will require the Company to monitor the progress of these projects with special care and to provide detailed information on them in their status report filing of December 30.

Cost Effectiveness Studies to Continue -- The Commission continues to encourage and require the Company to work with the Department and other interested parties in developing and refining analytical techniques for measuring the cost effectiveness of CIP projects and programs. The Company should continue to submit cost effectiveness analyses for all projects in future CIP filings.

ORDER

1. The Commission approves the Company's CIP proposal, as modified herein. The approved plan consists of the following projects funded at the levels indicated:

<u>Project</u>	<u>1988</u>	<u>4th Quarter</u>	<u>1989</u>
Appliance Rebate	\$454,000		\$2,270,000
Chiller Efficiency	\$ 61,000		\$ 249,000
CACHIE	\$ 750		\$ 3,000
Commercial and Industrial (C and I) Audits	\$ 30,500 ¹		\$ 377,000
C and I End Use Study	\$ 64,000		\$ 25,000
Community Energy Councils	\$ 93,000		\$ 270,000
Cool Storage	\$135,000		\$ 696,000
Demand Side Management Potential Study	\$265,000		\$ 189,000
Good Cents Homes	\$ 24,200		\$ 180,000
Lighting Efficiency	\$375,500		\$1,502,000
Low Income Household Pilot	\$ 18,800		\$ 91,000
Small Business, Non-Profit, Tax-Exempt Pilot	\$ 12,850		\$ 37,000
Miscellaneous Administrative	\$ 45,000		\$ 179,000
Motor Efficiency	\$ 28,000		\$ 121,000
Residential Audits	\$ 53,000		\$ 400,000
Rooftop A/C Rebate	\$ 64,000		\$ 325,000
Technology Research	\$ 35,000		\$ 103,000
Time of Day Rates	-----	-----	

TOTAL		\$1,759,600	\$7,017,000

2. The Company shall consult with the Department regarding possible ways to increase the cost effectiveness of the Voluntary Time-of-Day Rates Project and shall make a supplementary filing detailing the results of these discussions within 30 days of the date of this Order.
3. On or before December 30, 1988 the Company shall file interim status reports on all projects approved herein, with special emphasis and detail on participation levels in the Cool Storage, Rooftop Air Conditioner, Motor Rebate, and Residential Audit Services Projects, and with a

¹ This figure does not include the cost of any demand side management audits. All 840 of those audits are treated as having been performed in the 1987-88 CIP year.

detailed account of progress to date in the Technology Research Project.

4. When reporting financial results in its periodic status reports, the Company shall use the same categories as those used in this year's annual filing.
5. To the maximum extent practicable the Company shall ensure that all CIP participants have free choice of the devices, methods, materials, sellers, installers, and contractors used in making conservation improvements to their property.
6. The Company shall continue to report expenses incurred and revenues collected in the CIP tracker account approved in the Company's last rate case.
7. The Company shall continue to work with the Department in the development of cost effectiveness analyses for electric utilities. Both parties shall continue to submit cost effectiveness analyses and accompanying explanatory notes for proposed CIP projects.
8. The Company shall work with the Department to develop a plan specifying the total projected energy savings from all CIP projects approved herein.
9. In future annual filings the Company shall include in the cost of each project evaluation costs, with an itemization of expenses which is sufficiently detailed to allow removal of evaluation costs for purposes of cost effectiveness analyses.
10. In the future the Company may base its CIP program on the calendar year and may make its annual filing on or before August 1 instead of May 1.
11. Parties shall have 15 days from the date of filing to comment on any filing required herein.
12. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Mary Ellen Hennen
Executive Secretary

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